

WE CLAIM:

1 1. A surveillance system for detecting an event, comprising:
2 a sensor for capturing a current image using a first exposure time to produce
3 sensor values representing said current image and capturing an event image using a second
4 exposure time less than said first exposure time; and
5 an image processing system for performing a comparison of at least a portion
6 of said sensor values representing said current image and spatially corresponding sensor
7 values of a stored reference image captured using said first exposure time, said image
8 processing system further for detecting said event in said current image based upon said
9 comparison and instructing said sensor to capture said event image.

1 2. The surveillance system of Claim 1, wherein said image processing system is
2 configured to perform said comparison by computing a difference value between at least a
3 portion of sensor values representing said current image and spatially corresponding sensor
4 values representing said reference image.

1 3. The surveillance system of Claim 2, wherein said image processing system is
2 further configured to perform said comparison by determining whether said difference value
3 exceeds a threshold, said image processing system being configured to detect said event when
4 said difference value exceeds said threshold.

1 4. The surveillance system of Claim 1, wherein said image processing system is
2 further configured to replace said reference image with said current image.

1 5. The surveillance system of Claim 1, further comprising:
2 an illumination source connected to said image processing system and
3 operable in response thereto to provide artificial illumination during the capture of said event
4 image.

1 6. The surveillance system of Claim 1, wherein said first exposure time is up to
2 six seconds, and said second exposure time is up to 1/60 of a second.

1 7. The surveillance system of Claim 1, further comprising:
2 a storage medium for storing said event image.

1 8. The surveillance system of Claim 1, further comprising:
2 a transmission interface for transmitting said event image to an external
3 security system.

1 9. The surveillance system of Claim 1, wherein said reference image and said
2 current image are captured under an illumination level between one centilux and one lux.

1 10. A method for performing event detection within a surveillance system, the
2 method comprising:
3 comparing a current image with a reference image, said current image and said
4 reference image being captured using a first exposure time;
5 detecting an event based upon said comparing; and
6 capturing an event image using a second exposure time less than said first
7 exposure time.

1 11. The method of Claim 10, wherein said comparing further comprises:
2 computing a difference value between at least a portion of sensor values
3 representing said current image and spatially corresponding sensor values representing said
4 reference image.

1 12. The method of Claim 11, wherein said comparison further comprises:
2 determining whether said difference value exceeds a threshold, said event
3 being detected when said difference value exceeds said threshold.

1 13. The method of Claim 10, further comprising:
2 storing said current image as said reference image.

1 14. The method of Claim 10, further comprising:
2 in response to said detecting, providing artificial illumination during said
3 capturing.

1 15. The method of Claim 10, further comprising:
2 transmitting said event image to an external security system.

1 16. The method of Claim 15, further comprising:
2 transmitting said event image over a wireless connection to said external
3 security system.

1 17. A method for capturing an image of an event by a surveillance system, the
2 method comprising:
3 comparing a current image with a reference image, said current image and said
4 reference image being captured using a first exposure time;
5 detecting an event based upon said comparing;
6 in response to said detecting, providing artificial illumination; and
7 capturing an event image under the artificial illumination using a second
8 exposure time less than said first exposure time.

1 18. The method of Claim 17, wherein said comparing further comprises:
2 computing a difference value between at least a portion of sensor values
3 representing said current image and spatially corresponding sensor values representing said
4 reference image.

1 19. The method of Claim 18, wherein said comparison further comprises:
2 determining whether said difference value exceeds a threshold, said event
3 being detected when said difference value exceeds said threshold.

1 20. The method of Claim 17, further comprising:
2 capturing said reference image and said current image under an illumination
3 level between one centilux and one lux.